

Photo 7. Fracture in pile.



Photo 8. Spalling and delamination in the curb at 42-in cleat.



Photo 9. Deteriorated fender system.



Photo 10. Deteriorated steel sheetpile bulkhead.



Photo 11. Spall along the face of the concrete curtain wall fronting the existing steel sheetpile wall.

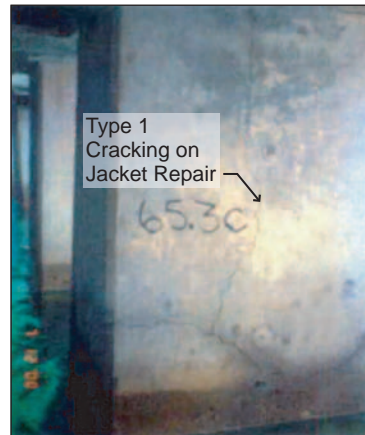


Photo 12. Cracking on the pile jacket.

Typical Waterfront Facilities Deterioration (Photos)

Figure 5

Waterfront Facilities Maintenance and Improvements

Environmental Assessment

Pearl Harbor Naval Complex, O'ahu, Hawai'i

REPORT DOCUMENTATION PAGE					<i>Form Approved OMB No. 0704-0188</i>	
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1.4.2 Historic Sites Act of 1935

The Historic Sites Act of 1935 (16 USC §461-467) establishes as a national policy the preservation of historic resources, including sites and buildings. This Act led to the establishment of the National Historic Landmarks (NHL) program and the National Park Service Historic American Building Survey/Historic American Engineering Records (HABS/HAER) program that establishes standards for architectural and engineering documentation.

1.4.3 National Historic Preservation Act

The National Historic Preservation Act (NHPA) of 1966, as amended (16 USC §470) recognizes the Nation's historic heritage and establishes a national policy for the preservation of historic properties as well as the NRHP. Section 106 of the NHPA requires Federal agencies to take into account the effects of Federal undertakings on historic properties, such as the U.S. Naval Base PHNHL, and affords the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings. The Section 106 process, as defined in 36 CFR §800, provides for the identification and evaluation of historic properties, for determining the effects of undertakings on such properties, and for developing ways to resolve adverse affects through the process of consultation.

Section 110(b) of the NHPA requires CNRH to ensure timely completion of appropriate records before a historic property is substantially altered or demolished and that such records are then deposited in the Library of Congress for future use and reference. Section 110(f) requires CNRH to undertake actions to minimize harm to the PHNHL and afford the ACHP the opportunity to comment on proposed undertakings within the NHL.

The Pearl Harbor Naval Complex Cultural Resources Management Plan (CRMP) (DoN, 2000) and Integrated Cultural Resources Management Plan (ICRMP) (DoN, March 2002) provide additional guidance for managing historic Navy properties within the Pearl Harbor area. The CRMP and ICRMP describe the historic resources, outline a classification system for the historic facilities, specify standard operating procedures for evaluating properties proposed for alteration or demolition, and assign categories (ranging from the highest preservation importance to the least) to each facility.

1.4.4 Coastal Zone Management

The purpose of the Coastal Zone Management Act (CZMA) of 1972, as amended (16 USC §1451 *et seq.*) is to encourage states to manage and conserve coastal areas as a unique, irreplaceable resource. Federal agency activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone shall be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved State management programs. However, land subject solely to the discretion of the Federal government, such as federally owned or leased property is excluded from the coastal zone. The proponent of the Navy action must determine whether the action would affect any coastal use or resource in a coastal state.

1.4.5 Endangered Species Act

The Endangered Species Act (ESA) (16 USC §1531 *et seq.*) establishes a process for identifying and listing species. It requires all Federal agencies to carry out programs for the conservation of federally listed endangered and threatened plants and wildlife, and prohibits actions by Federal agencies that may adversely affect endangered or threatened species, or critical habitat. Section 7 of the ESA requires consultations with Federal wildlife management agencies on actions that may jeopardize species or habitat. Section 9 of the ESA prohibits the “taking” of endangered species by causing harm or harassment unless authorized under an incidental take statement issued under a formal Section 7 consultation.

2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

2.1 Introduction

This chapter presents a discussion of the Proposed Action and alternatives, and a summary of the environmental consequences of the alternatives.

2.2 Description of Alternatives

2.2.1 Proposed Action

The Proposed Action will repair, maintain, and improve waterfront berthing and maintenance facilities for ships and submarines in PHNC on an as-needed basis, to meet operational requirements. Specific work on individual facilities may include, but is not limited to, the following actions:

- Replace existing damaged and deteriorated timber pile fender system with new fender system, to include but not be limited to: concrete fender piles, floating foam filled fenders, plastic wales and chocks, pneumatic rubber fenders and backing assemblies, and composite/plastic piles.
- Upgrade of existing concrete decks to increase current loading capacity, to include demolition and re-construction, if required, following the same dimensions. The appearance of the deck will remain unchanged.
- Repair or replace existing concrete fender systems.
- Replace timber curbs with plastic blockings.
- Repair existing sheetpile walls, to include but not be limited to installation of new anchor rods and deadman.
- Install new sheetpile bulkhead.
- Install new mooring hardware.
- Enclose and secure utility conduits to the piers.
- Replace deteriorated light poles and solar panels.
- Upgrade decks to improve mobile crane and mooring operations.
- Install oil containment flotation devices alongside the piers.
- Repair or replace small boat landing platforms and walkways.
- Repair deck and underdeck cracks, spalls; clean and resurface existing mooring hardware; replace manhole covers; replace anchor bolts and hardware; repair pile caps; replace brackets and hangers; and repair bollards.
- Repair or replace pier superstructures (non-historic).
- Repair or replace miscellaneous facilities and minor structures (non-historic)

2.2.2 In-Kind Repair

The In-Kind Repair Alternative would restore, as much as practicable, the existing facilities to their original conditions using same or similar construction materials and/or structural designs. This alternative would minimize impacts on the historic facilities, but would fall short of the purpose and need to maintain full and effective berthing and maintenance services. In particular, this alternative would not support proper mooring of the classes of ships currently in use, would not provide effective energy-absorbing fender systems, and would not upgrade utilities to support current naval technology.

2.2.3 No Action

The No Action Alternative would not correct existing structural deficiencies and poor operating conditions. Berthing and maintenance facilities would continue to operate with structural deficiencies and limitations until they are forced to be removed from service.

The No Action Alternative would not satisfy the purpose and need for the project, and was carried through in the analysis only as a benchmark against which the environmental effects of the Proposed Action could be compared.

2.3 Environmental Consequences of the Proposed Action and Alternatives Analyzed

Table 1 summarizes the environmental consequences of the Proposed Action, the In-Kind Repair Alternative, and the No Action Alternative, as discussed in Chapter 4, Environmental Consequences. Table 1 also summarizes the mitigation measures for the Proposed Action.

**Table 1:
Summary of Environmental Consequences of the Proposed Action and
Alternatives**

Resource Issue	Proposed Action	In-Kind Repair	No Action
Cultural Resources	<p>Adverse effect on historic property (repair, reconstruction, and upgrading of existing historic waterfront facilities); ground disturbance over buried fishponds; work at or near Drydock 1).</p> <p>No impact on significant historic views.</p> <p>Mitigation: CNRH concluded consultations in accordance with 36 CFR §800 by executing a WPA with the State Historic Preservation Officer (SHPO) that stipulates ways to resolve, or mitigate, the adverse effects on historic properties. Mitigation is necessary only for listed and eligible waterfront facilities.</p>	No adverse effect on historic properties (repair or restoration using same or similar construction materials and/or structural designs).	No impact.
Soils, topography, groundwater, air quality, noise, marine and biological resources, utilities, storm drainage, traffic, hazardous and regulated materials, flood hazard, socio-economic factors, land use compatibility.	<p>No long-term significant impacts.</p> <p>Temporary impacts only during repair, maintenance, and construction.</p> <p>Regulated or hazardous materials would be managed in accordance with applicable State and Federal regulations. Best Management Practices (BMPs) would apply to in-water work and work near surface water bodies). There will be no effects on any threatened and endangered species under the ESA.</p>	Same as the Proposed Action, except reintroduction of creosote-treated timber piles would not be feasible due to creosote leaching	No impact.

3.0 AFFECTED ENVIRONMENT

This chapter describes the environmental setting and baseline conditions of the environmental resources within the area of the Proposed Action and alternatives.

3.1 Overview

Pearl Harbor is the largest estuary in Hawai'i. It is fed by nine streams, encompasses about 8 square miles (20.7 square kilometers) of surface water, and includes approximately 36 miles (57.9 kilometers) of shoreline. Pearl Harbor is completely under the control of the U.S. Navy, and consists of three main lochs, West Loch, Middle Loch and East Loch, and a smaller loch, Southeast Loch. The lochs join to form a single channel entrance (Fig. 1).

The project area encompasses waterfront berthing and maintenance facilities along the entire PHNC waterfront. Most of the waterfront facilities (including Oscar (O), shipyard graving (GD), Bravo (B), Mike (M), Sierra (S), Yankee (Y), Kilo (K), and Hotel (H) wharves, and drydock (DD) facilities) are located along the shoreline of the main base area (South Avenue to Halawa Stream, Figs. 1 & 2). Other waterfront facilities are located around Ford Island (seaplane ramps, Foxtrot (F) wharves, and minor structures), and outlying wharves are located along the western shore of West Loch (Whiskey (W) wharves on the west shore), on the southwest tip of Waipio Peninsula (W10), on the southern shore of Pearl City Peninsula (Victor (V) wharves), on the eastern shore of Waipio Peninsula (Naval Inactive Ship Maintenance Facility (P on Fig. 1)), and along the western shoreline of Bishop Point along the east side of the channel entrance (Alpha (A) piers and wharves). Sheet pile bulkheads are used along much of the developed waterfront to protect the shoreline. See Figures 1, 2, and 3.

The PHNC waterfront has been under almost continuous construction and redevelopment since it was opened as a deep water port in the early 1900's, starting with the original dredging of the harbor entrance channel to support a naval coaling station (near DD4 and Hospital Point). By the time of WW II, the Southeast Loch waterfront, extending from the Oscar wharves through to Halawa Stream (considered the industrial heart of the PHNC), was largely constructed. Major waterfront facilities in this area include the Shipyard Drydocks and the Bravo Repair Basins, Bravo and Mike wharves, the Submarine Base (SUBASE) and Fleet Industrial Supply Center (FISC) waterfronts, and the Ford Island waterfront. The West Loch ammunition wharves (W1-3 and W4-5) were constructed just prior to WW II while the Victor wharves at Pearl City Peninsula were built during WW II. Waterfront facilities to support the Naval Inactive Ship Maintenance Facility in Middle Loch were constructed following WW II. Major new waterfront facilities include the F5 Wharf on Ford Island (temporary berth of the Ex-USS Missouri), the new SUBASE facilities (S8-9 and S10-12), and the new Kilo Wharf facilities in FISC.

Land Use Compatibility. Land uses in the vicinity of the berthing and maintenance facilities vary by facility, but include a mix of military operational, repair, and training facilities. Most of waterfront and backland areas are industrialized, with the characteristic appearance of a working waterfront. Parking is also located along the waterfront, along with nearby support facilities for military and civilian workers.

Physical Conditions (*soils, topography, groundwater, air quality, noise*). Topography within the project area varies from facility to facility. All facilities adjoin the water's edge,

and surrounding topography is relatively flat, with gentle slopes toward the shoreline. There is little exposed soil adjoining the project areas in the main base area, as available areas of the shoreline have been covered with wharves, quaywalls, and sheet pile at least since WW II (Fig. 2). Adjoining areas have been paved to support the movement of cargo, waterfront access, and vehicle parking. The original shoreline has been substantially altered by over a century of use, with extensive dredge and fill modification to adapt to naval requirements. Many of the berthing facilities are seaward of the shoreline identified in 1922 (DoN, 2002) due to fill operations. Underlying soils consist of a mix of original shoreline soils and mixed fill from both dredge and excavation operations. Outside the main base area, there is a mix of man-made and natural shoreline. While the southeastern side of Ford Island has been filled and hardened, areas surrounding outlying facilities on Pearl City and Waipio Peninsulas and at the Naval Magazine (NAVMAG) Pearl Harbor West Loch Branch have predominantly natural shorelines.

Groundwater in the Pearl Harbor region is found in a shallow, sedimentary caprock aquifer and a deeper, basaltic aquifer. The water in the caprock aquifer is high in salinity and is not a source of drinking water. The deeper basaltic aquifer is a major source of drinking water for O'ahu and has been designated a State of Hawai'i groundwater management area. No potable water aquifers are in the region of disturbance for any of the project areas.

Air quality criteria pollutant levels in the State of Hawai'i, including the PHNC, are well below State and Federal ambient air quality standards. The existing noise environment in the vicinity of the project area is primarily associated with industrial waterfront operations, including heavy and light equipment, machinery, ongoing maintenance operations, and vehicular traffic associated with a working waterfront.

Water Quality and Marine Environment. The State of Hawai'i Department of Health (DoH) classifies the waters of Pearl Harbor as an inland estuary, Class 2 (Title 11, Chapter 54, Water Quality Standards, DoH Administrative Rules). "The objective of class 2 waters is to protect their use for recreational purposes, the support and propagation of aquatic life, agricultural and industrial water supplies, shipping, and navigation. The uses to be protected in this class of waters are all uses compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation in and on these waters. These waters shall not act as receiving waters for any discharge which has not received the best degree of treatment or control compatible with the criteria established for this class" (§11-54-03(2)).

Pursuant to Section 303(d) of the Clean Water Act, DoH has identified Water Quality-Limited Segments (WQLS) around the State, with Pearl Harbor identified as one of a number of O'ahu segments. WQLS are defined as water bodies within the State "...for which effluent limitations required by Section 301(b)(1)(A) and (B) are not stringent enough to implement any applicable water quality standard" (EPA, June 21, 2004), and which cannot reasonably be expected to attain or maintain State Water Quality Standards. Primary pollutants identified by DoH include nutrients, suspended solids, turbidity, polychlorinated biphenyls (PCBs), chlorophyll a algal growth, and phosphorus. Potential sources of impairment were not reported to EPA by the State (DoH, 2004).

A comprehensive assessment of the marine environment in 1997 (Coles, *et al.*, 1997) indicates that environmental conditions in the harbor have improved since the early 1970s. The study suggests that conditions are improving due to declining non-point

source pollution, cessation of shipboard effluent releases and closure of sewage outfalls into the harbor.

Biological Resources (*marine and terrestrial flora and fauna*). There are no known resident listed threatened or endangered plants and terrestrial fauna inhabiting areas within or adjacent to the facilities considered in the Proposed Action and alternatives. The subject waterfront facilities are not adjacent to or within biologically sensitive areas, critical habitats, or wetlands.

The shoreline, estuaries and upland wetland areas of Pearl Harbor are known habitats for four endemic and endangered waterbirds: the Hawaiian Black-necked Stilt (*Himantopus mexicanus knudseni*) or ae'o; the Common Moorhen (*Gallinula chloropus sandvicensis*) or 'alae 'ula; the Hawaiian Coot (*Fulica alai*) or 'alae ke 'oke'o and Hawaiian Duck (*Anas wyvilliana*) or koloa.

The Western Pacific Regional Fishery Management Council has designated the waters within Pearl Harbor as an Essential Fish Habitat (EFH). However, there are no areas within Pearl Harbor that have been designated as Habitat Areas of Particular Concern (HAPC) under the EFH regulations and no portion of the proposed project area would qualify as a HAPC. There are no coral reefs and no unusual or rare species of corals present within Pearl Harbor. There are no resident threatened or endangered marine species in the project area, however, the threatened green sea turtle (*Chelonia mydas*), has been seen in the greater Pearl Harbor area.

Other less frequent sightings of threatened and endangered species within the greater Pearl Harbor area include the hawksbill turtle (*Eretmochelys imbricate*) and the humpback whale (*Megaptera novaeangliae*). These occurrences are generally considered inadvertent, as there have been only four documented sightings of the green sea turtles and one incident where an adult humpback whale and a calf briefly entered the harbor (DoN, January 2002). The endangered Hawaiian monk seal (*Monachus schauinslandi*) has been recorded at the entrance channel, but not within the harbor (DoN, 2001).

Infrastructure (*utilities, storm drainage, traffic*). The subject facilities are serviced by existing water, wastewater, and electrical systems, many of which are being upgraded. As a working waterfront, most of the adjacent area is paved or covered with structures. Presently, runoff from these adjacent areas drains into the existing drainage system, which conveys stormwater to the harbor via storm drains.

Primary vehicular and pedestrian access to the Main Base/Ford Island waterfront is from the H-1 Freeway, and Kamehameha and Nimitz Highways. The Pearl City Peninsula waterfront is accessed from Kamehameha Highway via Lehua Avenue. Access to the West Loch waterfront is from Fort Weaver Road and Waipi'o Peninsula from Farrington Highway.

Health and Safety (*hazardous and regulated materials, flood hazard*). The timber piles currently in use are creosote treated and are considered a potentially hazardous material. Asbestos containing materials (ACM) and lead-based paint (LBP) exist in some of the project areas. ACM is known to be present on some sites in thermal insulation for pipes beneath deck areas, in gasket materials, in the white mastic used on concrete pillars, and/or in cementitious piping. LBP is likely present on some older metal surfaces. Chlordane (termite pesticide) may have been used in some surrounding soil areas. PCBs could be present around old transformer locations due to leakage or

maintenance spills. Investigation and/or remediation is ongoing on a number of existing identified or potential Installation Restoration Program (IRP) sites.²

The project area is in Zone D (undetermined flood hazard) on Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps. Civil defense information indicates that the rise in water level within Pearl Harbor due to a tsunami event would be 4 feet (1.2 m) (DoN, November 2002).

Socio-Economic Factors (*population, employment, effects on children, disadvantaged and minority populations*). In 2000, the population of the City and County of Honolulu (in which the project area is located) was 876,156 (U.S. Department of Commerce, 2004). In 2003, there were 8,381 active-duty shore-based Navy personnel and 12,515 Navy family members in Hawai'i (State of Hawai'i, 2004, Table 10.07). In 2003, there was an average of 420,400 nonagricultural jobs in the City and County of Honolulu (State of Hawai'i, 2004, Table 10.15). In 2003, there were about 9,293 direct-hire Navy civilian jobs in Hawai'i (State of Hawai'i, 2004, Table 10.07). Because the project area is located within a Navy installation, access to it is restricted to Navy personnel, dependents, contractors, and invited guests. Members of the general population do not frequent the project area.

3.2 Cultural Resources

The NHPA defines historic property as “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register...” (16 USC 470w). For the purposes of this EA, “cultural resources” and “historic properties” are used synonymously. The categories of historic properties considered in this EA are properties of traditional cultural significance, archaeological sites, and historic facilities.

Properties of traditional cultural significance. Pu'uloa is the name of the Pearl Harbor lagoon as commonly used in traditional and historical texts, and its use as the name of the lagoon continued into 20th century. Although there are no known traditions that indicate the origin or significance of the name Pu'uloa, in Native Hawaiian oral traditions, Pu'uloa is most often associated with the water spirits called *mo'o* (eel beings) and the shark gods. One of the most important traditions concerning the sharks at Pearl Harbor is that they would not attack humans, and therefore would take on a protective role.

A dominant Pu'uloa shark goddess was Ka'ahupahau, who had a cave (or caves) in Pearl Harbor, but the information on the cave's exact location is ambiguous. Kahi-uka, either the brother or son of Ka'ahupahau, was also reported to have caves in several locations. The location of DD1 has been associated as the home of Ka'ahupahau and Kahi-uka (Fig. 2).

The 1913 collapse of DD1 was a famous event with many versions, but one of the most interesting accounts is from the Hawaiian construction foreman, David K. Richards. Based on his accounts, when Richards and his crew were digging, he was approached by three Hawaiian fishermen and was told not to dig there because the place was a

² The IRP is concerned with the identification, control, and remediation of residual contamination from potential contaminants of concern to human health, such as metals, PCBs, and petroleum. Such contamination may be present around the sites of present or former transformers and pipelines. The entire PHNC has been placed on the National Priorities List and is considered to be a Comprehensive Environmental Response, Compensation, and Liability Act site under 42 USC 103.

taboo and belonged to the shark god Ka'ahupahau. Richards was warned by one of the Hawaiian fishermen that they would be severely punished for digging in the area. In 1913, the drydock collapsed due to greater than anticipated hydrostatic forces. The reconstruction of a new drydock started more than a year after the collapse. This time, the amount of concrete was nearly doubled, and a Hawaiian-Christian blessing was conducted by a *kahuna* (priest).

One of the most well-known legends of Pu'uloa lagoon, associated primarily with the estuary now called West Loch (or Ka-i-hu-o-Pala'ai), is the mullet migration between Honouliuli and Lā'ie on the northern (windward) side of O'ahu. McAllister (1933:108) assigned site number 141 to West Loch and notes that the mullet tradition "is a favorite story which one comes across frequently about the island, and the oral versions are as diverse as those written."

Archaeological Sites. The areas around the lochs of Pearl Harbor were used extensively for aquaculture. Historical maps and other sources indicate that there were as many as 25 fishponds, fish traps, and other types of aquacultural features along the shoreline of Pearl Harbor. Twenty of these sites were located wholly or partially within the boundaries of the PHNC. Archaeological remains of many of these features are still present, including four existing fishponds and numerous buried fishponds. Six buried fishponds, all located adjacent to the Southeast Loch area of the main base area (Loko Amana, Loko Pohaku, Wailolokai, Loko Kunana and two unnamed fishponds) are located either directly under or adjacent to a waterfront facility. Existing fishponds (Loko Paaiau, Loko Okiokiolepe, Loko Pamoku, and Loko Laulaunui) are located in undeveloped areas of the PHNL, not near major waterfront facilities. These buried and existing fishponds have yielded, or have the potential to yield, significant archaeological information pertaining to fishpond construction and use in Pearl Harbor.

Historical Facilities. Construction of waterfront facilities was one of the top priorities in establishing a naval base in Pearl Harbor. Because the main functions of the base were ship repair and outfitting, a drydock, wharves and piers were early necessities. DD1 (Facility S779) was completed in 1919 (see above about the 1913 collapse of the initial drydock). Appropriations in 1911 and 1912 were provided for the completion of the first wharf (K1) on Kūāhua, and the coaling station and its wharf (O1). By 1918, the main wharf at the base was completed in the Shipyard area. This wharf, B2, was called "ten-ten" because it was 1,010 feet long. It was built of heavily reinforced concrete, but was completely reconstructed in 1964-65, as Pearl Harbor's first pre-stressed concrete wharf. In 1914 the Army built a small boat landing (S380, near Battery Adair and the current Ford Island bridge landing) as part of the improvements needed to build and supply Batteries Adair and Boyd (Fig. 2).

By the 1920s, additional waterfront improvements were completed. There were four submarine piers (S2/3, S4/5, S6/7, and S8/9) at Quarry Point. These early piers have since been replaced, but the pier numbers remain the same. A submarine wharf along Magazine Loch was first built in 1925 and then later rebuilt or extended. At Merry Point, four berths (M1 to M4) used as fueling wharves lined the shoreline. Wharf B2 in Shipyard was extended at both ends. The south end of the wharf was designated B1, while the north end, most of which is a pier, was designated B3 and B4. By 1924, the total length of this Shipyard wharf had more than doubled to approximately 2,060 feet. On Ford Island, the Army built a pier (S291) near Battery Boyd.

Longer berths were developed for repair slips in the 1930s. B11 to B21 were constructed around this period. The shoreline along Magazine Loch was straightened and rebuilt as a wharf (S10 – S12). Two of the four piers (S4/5 and S8/9) at the end of Quarry Point were reconstructed as concrete piers in the mid-1930s. These were demolished in the 1990s and a new, longer pier (numbered S8/9) was built at a different angle, extending in a line from the quay on the Magazine Loch. Piers S2/3 and S6/7 were demolished in 1981 and 1977, respectively.

Due to expansion constraints at Kūāhewa Peninsula for magazine functions, the Navy acquired land areas on leeward Oahu between 1929 and 1931. West Loch, with its 213 acres (86.2 hectares), was developed as a receiving depot and for ordnance storage and handling. One wharf (W2) was built in 1932. By 1943, this wharf was extended at both ends (W2 and W3 – subsequently renumbered) and another wharf (W4/5) was built. The West Loch wharves continue to play a crucial role as the designated loading and off-loading areas for ocean-transported Department of Defense ordnance.

Most of the existing waterfront facilities at Pearl Harbor were constructed between 1940 and 1945. The order for the entire Pacific Fleet to remain at Pearl Harbor, after maneuvers in the spring of 1940, made clear that additional berthing spaces were required. In five years, almost the entire main base shoreline was re-configured as drydocks, wharves, and piers. Between the South Avenue boundary and Halawa Stream, the only portion of the shoreline that was not hardened was Hospital Point. On Ford Island, a bulkhead (S373), wharves (S369 and S374), a small boat landing (S370), slips and finger piers (S375 and S376) for small boats were constructed. Five pairs of 1930s moorings off Ford Island were incorporated into new berthing facilities. Four pairs on the northwest side of the island became T-shaped piers in 1943 (F9, F10, F12 and F13), while one pair on the southeast side was created into a pier (F5) in 1944. F12 and F13 were connected as one pier (S382) in 1945. Pier F5 (S378), where the memorial museum USS Missouri is currently berthed, was rebuilt in 1996. The waterfront facilities added to Shipyard in the 1940s included three additional drydocks, a repair basin, as well as small piers and wharves adjacent to those facilities.

The Deperming Pier (S9) at Waipio Peninsula across from Pearl City Peninsula (Fig. 3) was constructed in 1942 as part of the Degaussing Station, also called the Magnetic Proving Grounds. Historically, the original S9 was an individual mooring platform of wood frame construction. Today the Deperming Pier is a consolidation of three mooring platforms. Wooden piles have also been replaced by concrete piles.

The small craft berthing wharves at Bishop Point, small finger piers at Quarry Loch, and supply wharves in Pearl City Peninsula were built between 1943 and 1945. During WW II, the Navy altered the shape of Pearl City Peninsula by filling a fishpond on the east side, and the southern and western shorelines. A 1,880-foot timber wharf to serve a warehouse area called the Pearl City Provisions Annex was built at the eastern edge of the filled fishpond. The timber wharf has since been demolished. The southern and western shorelines of the peninsula were filled with dredged materials and a pointed tip was created by the construction of four aircraft carrier wharves, V1 to V4.

All the waterfront berthing and maintenance facilities within PHNC are located within the boundaries of the PHNHL (Fig. 1), an area listed in the National Register of Historic Places (NRHP). Table 2 lists the waterfront facilities deemed eligible for inclusion in the NRHP because they still retain integrity of material and design. These facilities were

assigned historic categories I, II, or III³ in the 2000 CRMP for PHNC. Waterfront facilities not listed in this table have been substantially altered or reconstructed due to their deteriorated condition or changes in the operational requirements. They no longer possess integrity of material and design, and would not be deemed eligible for inclusion in the NRHP.

Table 2:
Waterfront Facilities Deemed Eligible for Inclusion in the NRHP

FACILITY NO.	FACILITY NAME	LOCATION	HISTORIC CATEGORY
A1	Berthing Wharf	Bishop Point	III
A2-A3	Berthing Pier	Bishop Point	III
A4	Berthing Wharf	Bishop Point	III
A5-A6	Berthing Pier	Bishop Point	III
A7	Berthing Wharf	Bishop Point	III
B1	Repair Pier	Shipyard	III
B5	Repair Pier	Shipyard	III
B6	Repair Pier	Shipyard	III
B7	Repair Pier	Shipyard	III
B8	Repair Pier	Shipyard	III
B9	Repair Wharf	Shipyard	III
B10	Repair Pier	Shipyard	III
B11	Repair Pier	Shipyard	III
B12	Repair Pier	Shipyard	III
B13	Repair Wharf	Shipyard	III
B14	Repair Wharf	Shipyard	III
B15	Repair Pier	Shipyard	III
B16	Repair Pier	Shipyard	III
B17	Repair Pier	Shipyard	III
B18	Repair Pier	Shipyard	III
B19	Repair Wharf	Shipyard	III
B20	Repair Wharf	Shipyard	III
B21	Repair Wharf	Shipyard	III
B22	Repair Wharf	Naval Station	III
B23	Berthing Wharf	Naval Station	III
B24	Berthing Wharf	Naval Station	III
B25	Berthing Wharf	Naval Station	III
B26	Berthing Wharf	Naval Station	III
GD1	Repair Pier	Shipyard	III
GD2	Repair Pier	Shipyard	III
GD4	Repair Wharf	Shipyard	III
H1	Fueling Piers H1 - H4	Kūāhūa	III
K3	Supply Wharf	Kūāhūa	III
K5	Supply Wharf	Kūāhūa	III
K6	Supply Wharf	Kūāhūa	III
K7	Supply Pier	Kūāhūa	III
K9	Supply Wharf	Kūāhūa	III
K10	Supply Wharf	Kūāhūa	III
K11	Supply Wharf	Kūāhūa	III

³ The 2000 CRMP defines historic categories as follows: I = aspects of the built environment that possess major historic significance and are worthy of long-term preservation; II = possess sufficient historic significance to merit consideration for long-term preservation, but do not meet the criteria for assignment to Category I; III = possess sufficient historic significance to merit consideration in planning and consideration, but are not assignable to Category II. Category IV (used in the WPA and CRMP) are properties which do not possess sufficient historic significance or are lacking in importance and are not eligible for listing in the NRHP.

Table 2: Waterfront Facilities Deemed Eligible for Inclusion in the NRHP *(continued)*

FACILITY NO.	FACILITY NAME	LOCATION	HISTORIC CATEGORY
M1	Berthing Wharf	Merry Point	III
M2	Berthing Wharf	Merry Point	III
M4	Berthing Wharf	Merry Point	III
O1	Repair Wharf	Shipyard	III
O2	Repair Wharf	Shipyard	III
O3	Repair Wharf	Shipyard	III
S15/16	Berthing Pier	Submarine Base	III
S17/18	Berthing Pier	Submarine Base	III
S19	Berthing Wharf	Kūāhūa	III
S21	CPF Finger Pier	Kūāhūa	III
S291	Finger Pier	Ford Island	II
S357	Seaplane Ramp	Ford Island	III
S358	Seaplane Ramp	Ford Island	III
S359	Seaplane Ramp	Ford Island	III
S360	Seaplane Ramp	Ford Island	III
S362	Seaplane Ramp	Ford Island	III
S364	Seaplane Ramp	Ford Island	III
S366	Seaplane Ramp	Ford Island	III
S367	Seaplane Ramp	Ford Island	III
S368	Seaplane Ramp	Ford Island	III
S369	Berthing Wharf F1 - F1½	Ford Island	III
S370	Boat Landing A	Ford Island	II
S371	Ferry Slip A	Ford Island	III
S372	Ferry Slip B	Ford Island	III
S373	Berthing Wharf	Ford Island	III
S374	Berthing Wharf F-3½	Ford Island	III
S375	Small craft landing	Ford Island	III
S376	Finger Piers	Ford Island	III
S382	Berthing Wharf F12/13	Ford Island	III
S383	Berthing Wharf F10	Ford Island	III
S384	Berthing Wharf F9	Ford Island	III
S773	Boat Landing C	Shipyard	III
S779	Drydock 1	Shipyard	I
S780	Drydock 2	Shipyard	II
S781	Drydock 3	Shipyard	II
S782	Drydock 4	Shipyard	II
S1	Berthing Wharf	Submarine Base	II
S10-14	Berthing Wharf	Submarine Base	III
S20	Berthing Wharf	Kūāhūa	III
S21	Berthing Wharf	Kūāhūa	III
1192	Finger Pier	Submarine Base	III
1194	Finger Pier	Submarine Base	III
V1	Supply Wharf	Pearl City Peninsula	III
V2	Supply Wharf	Pearl City Peninsula	III
V3	Supply Wharf	Pearl City Peninsula	III
V4	Fueling Wharf	Pearl City Peninsula	III
W1	Ammunition Wharf	West Loch	III
W3	Ammunition Wharf	West Loch	III
W4	Ammunition Wharf	West Loch	III
W5	Ammunition Wharf	West Loch	III

Source: WPA, Attachment A. Non-eligible Historic Category IV properties excluded. See Appendix B, Attachment A for the WPA list including Category IV properties.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 Overview

This chapter evaluates the probable direct, indirect, short-term, long-term, and cumulative impacts of the Proposed Action and two alternatives analyzed (In-Kind Repair and No Action) on relevant environmental resources.

Land Use Compatibility. The alternatives do not involve land use changes. All uses would remain compatible with land uses in the vicinity. No significant direct, indirect, short-term, or long-term land use compatibility impacts are anticipated from any alternative. The primary land uses in the vicinity of the project areas are ship berthing, maintenance activities, and shop storage. The Proposed Action and In-Kind Repair Alternative would extend the functional life of existing waterfront facilities with no change in use.

Physical Conditions (*soils, topography, groundwater, air quality, noise*). None of the alternatives discussed would involve changes to existing topography, as the existing footprints of the waterfront facilities would be maintained. None of the alternatives discussed would involve impacts to groundwater.

There would be minor short-term impacts to air quality and noise as a result of construction activities for either the Proposed Action or In-Kind Repair Alternative, but these are not considered significant. Neither alternative would cause National/State Ambient Air Quality Standards to be exceeded or be subject to Prevention of Significant Deterioration/New Source Review Regulations, or New Source Performance Standards. Either alternative could be subject to National Emission Standards for Hazardous Air Pollutants if ACM is present and it would be disturbed or removed as a result of the proposed action (see the Health and Safety section). The contractor would control airborne dust as required by the BMP incorporated into the construction documents.

Some activities would create short-term noise impacts (e.g., if the use of pneumatic tools or pile driving is required). These impacts would be limited to the construction period, and all work would comply with all applicable federal noise control regulations and standards. No significant long-term impacts to soils, topography, groundwater resources, air quality, or noise are anticipated or likely for either alternative. The No Action Alternative would not impact any of these resources.

Water Quality and Marine Environment. The Proposed Action and In-Kind Repair Alternative would not cause non-point source pollution or degradation of water quality in any adjacent stream or body of water, provided no creosote treatment is used on wood for in-kind repairs. Neither would require dewatering operations which would require issuance of a National Pollutant Discharge Elimination System (NPDES) general permit.

Water quality impacts would be strictly controlled and minimized to the greatest practicable extent by requiring contractors to follow the BMPs specified in individual construction documents. Most work would be conducted above the waterline, and a platform or other barrier would be required to prevent debris from falling into navigable waters of the United States (Water). Repair materials, removed material, soils, pollutants (petroleum products, seepage from work on sewer lines or fuel lines, etc.), and other material would not be allowed to enter the Water, and no wash down of work areas into the Water would be permitted. Runoff would not be permitted to flow to the

Waters of the harbor without an NPDES permit. Potential soil erosion runoff would be strictly controlled. Erosion control measures would be maintained and drainage channels cleared of blockage and debris after heavy rainfall events and as necessary.

Should in-water work be conducted, full enclosure is required to prevent contamination of adjacent waters. Any work requiring the driving or extraction of piles, probing, pre-drilling, or other work disturbing the ocean floor would require enclosure with full-length silt curtains. If a plume is observed outside the silt curtains caused by the construction activity, work would cease until corrective measures have been instituted. In-water work would require compliance with all applicable Federal and State Laws, including Section 404 of the Clean Water Act (including a Section 401 Water Quality Certification from the State of Hawai'i, DoH, Clean Water Branch), and Section 10 of the Rivers and Harbors Act of 1899, as appropriate. The No Action Alternative would not impact any of these resources, or require mitigation or permits.

Biological Resources (*marine and terrestrial flora and fauna*). The Proposed Action and In-Kind Repair Alternative would not affect threatened and endangered species or significantly impact other biological resources. There are no critical habitats or jurisdictional wetlands within or adjacent to the project areas (U.S. Army Corps of Engineers, 1999). BMPs will apply to any in-water construction activities and work near surface water bodies. Such work would be preceded by a visual scan of the adjacent waterfront areas for protected marine species (e.g., sea turtles or marine mammals) before any in-water work will take place. Should any protected marine species enter the project area, construction activity will cease until such time that the animal leaves the area under its own volition. The No Action Alternative would have no impacts to marine and terrestrial flora and fauna.

Infrastructure (*utilities, storm drainage, traffic*). The Proposed Action and In-Kind Repair Alternative would slightly increase traffic, noise, and demands on utilities during the construction period (e.g., electricity, wastewater, water, telecommunications), but would not increase utility loads (water, electricity, sewerage, etc.) beyond the available capacity of existing utility systems. Stormwater drainage would be generally unaffected, as work would be largely contained within the existing facilities footprint, with no significant increase in impervious surfaces under any alternative and little or no soil exposure for most sites. Contractors would nonetheless be required to follow BMPs to mitigate and control drainage impacts. There will be minor impacts to local traffic during construction. The No Action Alternative would have no impacts to these resources.

Health and Safety (*hazardous and regulated materials, flood hazard*). The Proposed Action would not directly or cumulatively introduce toxic or hazardous chemicals, organic substances, or solid wastes into bodies of water, into the air, onto land or into groundwater. The Proposed Action would not create additional sources of environmental contamination in the area or be affected by any existing contamination.

The In-Kind Repair Alternative would have the same impacts for most repairs, except the in-kind replacement of creosote-treated timber piles would be unacceptable. Creosote has no equivalent substitute, but is a hazardous material which leaches polycyclic aromatic hydrocarbons, especially in the first year after introduction.

There is a possibility of encountering hazardous and regulated materials (such as ACM, LBP, chlordane, PCBs, or chemicals present in petroleum fuels) at some project sites. Any contamination or IRP issues will be identified during project planning and confirmed

by field verification. Should any such hazardous and regulated materials be encountered, the appropriate mitigative measures would be taken to control the material, minimize releases to the environment, and to protect demolition and construction personnel. Any construction, demolition, handling, removal, and/or disposal would be implemented in accordance with applicable State and Federal safety, health, and environmental regulations.

Commercial contractors dispose of construction and demolition waste generated within the PHNC at an approved construction and demolition landfill. Recycling and reuse measures are encouraged to divert solid waste from the landfill and minimize waste from the Proposed Action and In-Kind Alternative. Disposal of non-hazardous material from repair/replacement work will be off-site, in approved sanitary landfills.

Disposal of the creosote treated timber piles requires a Toxicity Characteristic Leaching Procedure analysis to determine if the waste should be disposed of as a hazardous material. Creosote-treated lumber waste will be disposed of at an approved construction and demolition landfill. All materials determined to be hazardous shall be packaged, labeled, marked, stored, transported, treated and disposed of in accordance with 40 CFR 260 through 270, 49 CFR 171 through 178, and all other applicable Federal, State and local laws and regulations.

All project areas are located in Zone D (undetermined flood hazard) as designated on FEMA Flood Insurance Rate Maps; compliance with Federal floodplain management policies is not required.

The No Action Alternative would have no impacts on the health and safety issues discussed above.

Socio-Economic Factors (*population, employment, effects on children, disadvantaged and minority populations*). The Proposed Action and the In-Kind Repair Alternative would not significantly impact long-term population or employment levels in the City and County of Honolulu, or the State of Hawai'i. However, short-term employment opportunities (varying by the needs of individual projects) will be created to accomplish the increased number of repairs and/or upgrades at these facilities. The No Action Alternative would have no impacts to these resources. Due to its location in an industrial area with limited access, and because no significant impacts on environmental resources are expected, neither the Proposed Action nor the In-Kind Repair Alternative would create environmental health and safety risks that would disproportionately affect children, minority, or disadvantaged populations.

4.2 Cultural Resources

Significant impacts to cultural resources are defined here as "adverse effects" to historic properties (those properties listed or eligible for listing in the NRHP) that cannot be resolved or mitigated.

As defined in the implementing regulations for Section 106 of the NHPA, the effects of a Federal undertaking are considered adverse if they "...alter, directly or indirectly, any of the characteristics of an historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association" [36 CFR Part 800.5(a)(1)]. Examples of adverse effects include, but are not limited to, the following:

- Physical destruction, damage, or alteration of all or part of the property
- Isolation of the property from, or alteration of the character of, the property's setting when that character contributes to the property's qualification for listing in the NRHP
- Introduction of visual, audible, or atmospheric elements that are out of character with the property, or alter its setting
- Neglect of a property resulting in its deterioration or destruction
- Transfer, lease, or sale of the property (36 CFR Part 800.5(a)(2))

The Proposed Action may have adverse effects on properties of traditional cultural significance, archaeological sites, and the historic waterfront facilities. In accordance with 36 CFR Part 800, CNRH has consulted with the following parties:

- SHPO
- ACHP
- Historic Hawai'i Foundation
- National Trust for Historic Preservation
- National Park Service
- Office of Hawaiian Affairs (OHA)
- O'ahu Council of Hawaiian Civic Clubs (OCHCC)

CNRH concluded Section 106 consultation by executing a *Waterfront Programmatic Agreement* (WPA) with SHPO in March 2004 to identify ways to resolve or mitigate the potential adverse effects on historic properties.⁴ The full text of the executed WPA is included as Appendix B. A summary of the stipulations to minimize and mitigate adverse effects is presented in Section 4.9.

The In-Kind Repair Alternative would not adversely affect the historic waterfront facilities. For archaeological sites and traditional cultural places, there is potential for adverse effects depending upon the extent of ground disturbance or if work occurs on or near Drydock 1.

The No Action Alternative would have no adverse effects on historic properties.

4.3 Cumulative Impacts

4.3.1 Overview

Cumulative impacts on environmental resources result from the incremental effects of development and other actions, evaluated in conjunction with other government and private past, present, and reasonably foreseeable future actions. The analysis of cumulative impacts was conducted considering the objectives of the *ICRMP* (DoN, March 2002), the *CNRH Regional Shore Infrastructure Plan Overview* (RSIP) (DoN, November 2002), and the *Ford Island Development Final Programmatic EIS* (DoN, January 2002).

⁴ The WPA includes the list under §2.2.1 Proposed Action (p. 2-1) as actions which have already been reviewed and approved and "will not undergo further review or consultation" to satisfy CNRH compliance with Sections 106 and 110(f) of the NHPA, provided they are carried out by or under the oversight of a Historic Architect or Archaeologist, and comply with the other stipulations of the WPA. The original list of actions is contained in Attachment B of the WPA.

The Proposed Action would not result in significant direct or indirect adverse effects on the resource areas described above, and is not expected to contribute to cumulative impacts on those resource areas, when evaluated in conjunction with other government and private past, present and foreseeable future actions.

The Proposed Action and the In-Kind Repair Alternative would not have a cumulative impact on land use compatibility. The Proposed Action and the In-Kind Repair Alternative would not alter the existing topography, impact potable water aquifers, or adversely affect biological resources of concern. They would not result in a net increase in utility demand or traffic that is not already contemplated. The Proposed Action and the In-Kind Repair Alternative would decrease risks to human health and safety and would not impact long-term population and employment levels (other than minor increases in employment associated with this action) in the City and County of Honolulu or the State of Hawai'i, nor would they disproportionately affect children or minority or disadvantaged populations.

The No Action Alternative would result in continued deterioration of waterfront facilities, adversely affecting military readiness.

4.3.2 Cultural Resources

The Proposed Action would modernize the waterfront facilities and alter the character of the PHNHL. However, the NHL designation in 1964 is in recognition of PHNC's success in its mission to support the Pacific Fleet and its related historic role in the expansion of the United States as a Pacific power. The PHNHL nomination also recognizes that the physical changes in Pearl Harbor have been an ongoing process since the early 1900s and these changes to the facilities are part and parcel of the process of change in naval technology. Improvements to the waterfront facilities would reflect this century's naval technology.

The In-Kind Repair Alternative and No Action Alternative would have no cumulative impacts on cultural resources.

4.4 Possible Conflicts between the Alternatives and the Objectives of Federal Land Use Policies, Plans, and Controls

4.4.1 Commander, Navy Region Hawaii Regional Shore Infrastructure Plan Overview

The CNRH RSIP Overview Plan is intended to direct future planning and management decisions. The guiding principles of the plan emphasize:

- Protection of operational capabilities and mission readiness
- Reduction of shore infrastructure costs and the reuse, divestiture or demolition of underutilized facilities
- Optimized land use/facility locations

The Proposed Action is consistent with the guiding principles of the Overview Plan.

The In-Kind Repair Alternative would permit continued use of the subject facilities, but would compromise operational capabilities and mission readiness by not supporting full and effective berthing, maintenance, and cargo operations, would not support proper mooring of the longer classes of ships currently in use, would not provide improved

energy-absorbing fender systems, and would not upgrade utilities to support current naval technology.

The No Action Alternative would not correct existing structural deficiencies and poor operating conditions, and is not consistent with the guiding principles of the Overview Plan.

4.4.2 Coastal Zone Management Act

CNRH has determined that the Proposed Action and the In-Kind Repair Alternative would not have reasonably foreseeable direct or indirect effects on any coastal use or resource of the State's coastal zone. Therefore, no documentation is required to be submitted to the Hawai'i Coastal Zone Management Program Office.

4.5 Relationship of Short-Term Uses and Long-Term Productivity

This section lists the trade-offs between short-term and long-term gains and losses due to the Proposed Action. "Short-term" refers to the construction period; "long-term" refers to the operational period.

The Proposed Action and the In-Kind Repair Alternative would have the following short- and long-term gains and losses:

Short-term

- Short-term air quality, noise and traffic impacts during repair, rehabilitation, and upgrade activities
- Short-term economic gains associated with the employment created by the repair, rehabilitation, and upgrade contracts

Long-term

- Long-term reduction in preservation of cultural resources by replacement of original construction materials (see Section 4.8 for means of mitigating potentially adverse impacts on cultural resources)
- Long-term economic gains by avoidance of further deterioration or replacement costs
- Long-term improvements in berthing facility availability
- Long-term productivity gains from repairs
- Long-term improvement in capability to support the Pacific Fleet (Proposed Action only)
- Long-term reduction in restrictions on the use of heavy waterfront equipment (Proposed Action only)
- Long-term productivity gains from upgrades supporting the current berthing, maintenance, and infrastructure needs of modern ships and state-of-the-art technology (Proposed Action only)

The No Action Alternative would have a continued long-term cost for escalating repair and maintenance costs, and could result in facilities eventually removed from service, reducing the ability of the CNRH to meet its mission of supporting of the Pacific Fleet. It would also increase the opportunity cost associated with the inefficient use of facilities,

and could result in eventual loss of historic resources by subsequent replacement, rather than adaptively rehabilitating these facilities for a continued useful working role.

4.6 Irreversible and Irretrievable Commitment of Resources

Resources that are committed irreversibly or irretrievably are those that cannot be recovered if the proposed project is implemented. The proposed repair, rehabilitation, and upgrade actions may irretrievably and irreversibly alter some elements of the historic property. The Proposed Action would utilize fiscal resources, labor, construction equipment, and materials to allow existing facilities to support the full and efficient use of existing waterfront berthing and maintenance resources. The In-Kind Repair Alternative would utilize fiscal resources, labor, construction equipment, and materials to restore facilities to their original condition and capacity, and would minimize impacts on historic facilities. The No Action Alternative would avoid the commitment of fiscal resources and permit the continuing deterioration of waterfront facilities.

4.7 Energy Requirements and Conservation Potential

The Proposed Action and In-Kind Repair Alternative would have a slight net increase in the energy budget for PHNC during repair and reconstruction efforts. The No Action Alternative would avoid additional energy use for repairs, rehabilitation, and upgrades, but would decrease the efficiency of waterfront operations, and ships may have to seek alternative berthing to facilitate loading and unloading or the mooring of longer ships. This increasing inefficiency, over a period of years, could result in increased overall energy consumption, and could further commit the Navy to significantly greater resource allocation for later repair or demolition and replacement as deterioration continues.

The Proposed Action and the In-Kind Repair Alternative would also comply with the following Executive Orders relating to energy conservation:

4.7.1 Executive Order 13101, Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition

Executive Order 13101 (14 September 1998) is intended to improve the Federal government's use of recycled products and environmentally preferable products and services. It states that pollution that cannot be prevented or recycled should be treated in an environmentally safe manner. Disposal should be employed only as a last resort.

The Proposed Action and In-Kind Repair Alternative would incorporate efficient waste handling and provisions for recycling waste products. Demolition debris and construction waste would be recycled to the maximum extent possible. The remaining demolition debris and construction waste would be disposed of at an approved construction and demolition landfill by the contractor. The No Action Alternative would create no waste.

4.7.2 Executive Order 13123, Greening the Government Through Efficient Energy Management

Executive Order 13123 (3 June 1999) requires the Federal government to improve its energy management for the purpose of saving taxpayer dollars and reducing emissions

that contribute to air pollution and global climate change. Federal agencies are required to reduce greenhouse gas emissions; reduce energy consumption per square foot of facility; strive to expand use of renewable energy; reduce the use of petroleum within its facilities; and reduce water consumption.

There is no significant difference in energy usage between the Proposed Action and In-Kind Repair Alternatives. Both alternatives comply with the EO by extending the economic life of existing installations, saving taxpayer dollars, and reducing overall long-term energy consumption and pollution emissions. The No Action alternative would result in lower short-term energy use. This could be offset in the long term by decreased efficiency of operations and possible unavailability of berthing and maintenance resources, resulting in inefficient porting or rerouting of fleet vessels, depending on operational requirements, and by greater eventual energy expenditure to accomplish delayed repairs or to demolish and replace deteriorating facilities.

4.8 Compliance with Other Executive Orders

This section describes how the Proposed Action, the In-Kind Repair Alternative, and the No Action Alternative comply with other relevant Executive Orders.

4.8.1 Executive Order 12898, Environmental Justice

Executive Order 12898 (11 February 1994) and the Secretary of the Navy Notice 5090 (27 May 1994) require the Navy to identify and address the potential for disproportionately high and adverse human health and environmental effects of their actions on minority and low-income populations.

The subject berthing and maintenance facilities are located along the waterfront within the PHNC. Most sites are in heavily industrialized areas and part of a working waterfront within an active military installation. The general population is that of a working military base. The Proposed Action and In-Kind Repair Alternative are not expected to adversely impact minority or low-income populations or housing, or to raise environmental justice concerns. The No Action Alternative would have no impacts.

4.8.2 Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks

Executive Order 13045 (21 April 1997) requires Federal agencies to make it a high priority to identify and assess environmental health and safety risks that may disproportionately affect children; and ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health or safety risks.

Children do not frequent the project sites, most of which are secured locations. Neither the Proposed Action, In-Kind Repair Alternative (assuming creosote treated wood is not used), nor the No Action Alternative would be likely to directly or cumulatively introduce toxic or hazardous chemicals, organic substances or solid wastes into bodies of water, into the air, onto land or into groundwater. There may be hazardous materials at some sites. Under the Proposed Action and In-Kind Repair Alternative, should hazardous or regulated materials be encountered, removal and disposal would be performed to minimize exposure or release to the environment, in accordance with State and Federal

requirements. Under the No Action Alternative, any hazardous materials present in the facility would not be disturbed.

4.8.3 Executive Order 13148, Greening the Government Through Leadership in Environmental Management

Executive Order 13148 (21 April 2000) requires Federal agencies to meet goals and requirements in the following areas: environmental management; environmental compliance; right-to-know and pollution prevention; release and use reductions of toxic chemicals and hazardous substances; reductions in ozone-depleting substances; and environmentally beneficial landscaping.

Under the Proposed Action and In-Kind Repair Alternative, removal and disposal of demolition or construction debris containing hazardous substances would be performed according to State and Federal requirements. Under the No Action Alternative, any hazardous materials present in the facility would not be disturbed, but might conceivably be released from facilities if allowed to deteriorate.

4.9 Means of Resolving Potentially Adverse Effects on Cultural Resources

This EA identified potentially adverse effects on properties of traditional cultural significance, archaeological sites, and the historic waterfront facilities that may result from the Proposed Action. In accordance with 36 CFR Part 800, CNRH concluded Section 106 consultation by executing a WPA (included as Appendix B) with the SHPO that identifies ways to resolve or mitigate the potential adverse effects on historic properties. A summary of the stipulations to minimize and mitigate adverse effects is presented below:

1. Qualified personnel, either a Historical Architect or an Archaeologist, would determine if an individual undertaking requires no further review or consultation.
2. CNRH will notify SHPO of undertakings listed in Attachment B of the WPA that occur in facilities that have not been photo documented to determine if photo documentation is required and the level of documentation.
3. CNRH will notify SHPO, OHA, and OCHCC of undertakings that (a) occur over areas with known or potential for sites to determine if archaeological work is required, or (b) require ground disturbance on or near Drydock 1 to determine the adverse effect.

5.0 AGENCIES CONSULTED

Federal

Advisory Council on Historic Preservation
National Park Service

State of Hawai'i

Department of Land and Natural Resources, State Historic Preservation Officer

Other

Historic Hawai'i Foundation
National Trust for Historic Preservation
Office of Hawaiian Affairs
O'ahu Council of Civic Clubs

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APPENDIX A

LISTING OF MAJOR WATERFRONT FACILITIES

Major Waterfront Facilities
Pearl Harbor Naval Complex

1 of 3

Facility No.	Location	Use
A1	Bishop Point	Berthing Wharf
A2-A3	Bishop Point	Berthing Pier
A4	Bishop Point	Berthing Wharf
A5-A6	Bishop Point	Berthing Pier
A7	Bishop Point	Berthing Wharf
B1	Shipyard	Repair Wharf
B2	Shipyard	Repair Wharf
B3	Shipyard	Repair Pier
B4	Shipyard	Repair Pier
B5	Shipyard	Repair Wharf
B6	Shipyard	Repair Pier
B7	Shipyard	Repair Pier
B8	Shipyard	Repair Pier
B9	Shipyard	Repair Wharf
B10	Shipyard	Repair Pier
B11	Shipyard	Repair Pier
B12	Shipyard	Repair Pier
B13	Shipyard	Repair Wharf
B14	Shipyard	Repair Wharf
B15	Shipyard	Repair Pier
B16	Shipyard	Repair Pier
B17	Shipyard	Repair Pier
B18	Shipyard	Repair Pier
B19	Shipyard	Repair Wharf
B20	Shipyard	Repair Wharf
B21	Shipyard	Repair Wharf
B22	Naval Station	Repair Wharf
B23	Naval Station	Berthing Wharf
B24	Naval Station	Berthing Wharf
B25	Naval Station	Berthing Wharf
B26	Naval Station	Berthing Wharf
F2	Ford Island	Mooring Dolphin
F2	Ford Island	Mooring Dolphin
F3	Ford Island	Mooring Dolphin
F3	Ford Island	Mooring Dolphin
F6	Ford Island	Mooring Dolphin
F6	Ford Island	Mooring Dolphin
F7	Ford Island	Mooring Dolphin
F7	Ford Island	Mooring Dolphin
F8	Ford Island	Mooring Dolphin
F8	Ford Island	Mooring Dolphin
GD1	Shipyard	Repair Pier
GD2	Shipyard	Repair Pier
GD3	Shipyard	Repair Wharf
GD4	Shipyard	Repair Wharf
GD5	Shipyard	Repair Pier
GD6	Shipyard	Repair Pier
H1 - H4	FISC	Fueling Piers
H5	FISC	Fueling Wharf
H6	FISC	Fueling Wharf

**Major Waterfront Facilities
Pearl Harbor Naval Complex**

2 of 3

Facility No.	Location	Use
K1	FISC	Supply Wharf
K3	FISC	Supply Wharf
K5	FISC	Supply Wharf
K6	FISC	Supply Wharf
K7-K8	FISC	Supply Pier
K9	FISC	Supply Wharf
K10	FISC	Supply Wharf
K11	FISC	Supply Wharf
K12	FISC	Supply Wharf
M1	Naval Station	Berthing Wharf
M2	Naval Station	Berthing Wharf
M3	Naval Station	Berthing Wharf
M4	Naval Station	Berthing Wharf
N1	Shipyards	Repair Wharf
N2	Shipyards	Repair Wharf
O1	Shipyards	Repair Wharf
O2	Shipyards	Repair Wharf
O3	Shipyards	Repair Wharf
P1	NISMF	Repair Pier
S-PIERS	SUBASE	Piers
S1	SUBASE	Berthing Wharf
S9	Beckoning Point	Pier
S10-S14	SUBASE	Berthing Wharf
S15/16	SUBASE	Berthing Piers
S17/18	SUBASE	Berthing Piers
S19	SUBASE	Berthing Wharf - NS
S20	SUBASE	Berthing Wharf
S21	FISC	Berthing Wharf
S21	Kuahua	CPF Finger Pier
S22	Aiea Bay	Pier
S28	Beckoning Point	Wharf
S291	Ford Island	Finger Pier
S357	Ford Island	Seaplane Ramp
S358	Ford Island	Seaplane Ramp
S359	Ford Island	Seaplane Ramp
S360	Ford Island	Seaplane Ramp
S362	Ford Island	Seaplane Ramp
S364	Ford Island	Seaplane Ramp
S366	Ford Island	Seaplane Ramp
S367	Ford Island	Seaplane Ramp
S368	Ford Island	Seaplane Ramp
S369	Ford Island	Berthing Wharf F1 - F1½
S370	Ford Island	Boat Landing A
S371	Ford Island	Ferry Slip A
S372	Ford Island	Ferry Slip B
S373	Ford Island	Berthing Wharf
S374	Ford Island	Berthing Wharf F3½
S375	Ford Island	Small Craft landing
S376	Ford Island	Finger Piers
S377	Ford Island	Berthing Wharf F4

Major Waterfront Facilities
Pearl Harbor Naval Complex

3 of 3

Facility No.	Location	Use
S378	Ford Island	Berthing Wharf F5
S380	Ford Island	Boat Landing B
S382	Ford Island	Berthing Wharves F12/F13
S383	Ford Island	Berthing Wharf F10
S384	Ford Island	Berthing Wharf F9
S439	Ford Island	Pier
S649	Pearl City Peninsula	Pier
S651	Pearl City Peninsula	Pier
S773	Naval Station	Boat Landing C
S774	Naval Station	Fleet Landing - Merry Pt
S777	Shipyard	Marine Railway No. 2
S779	Shipyard - Drydock 1	Drydock 1
S780	Shipyard - Drydock 2	Drydock 2
S781	Shipyard - Drydock 3	Drydock 3
S782	Shipyard - Drydock 4	Drydock 4
V1	Pearl City Peninsula	Supply Wharf
V2	Pearl City Peninsula	Supply Wharf
V3	Pearl City Peninsula	Supply Wharf
V4	Pearl City Peninsula	Fueling Wharf
V5	Pearl City Peninsula	Supply Wharf
W	Ford Island (N)	Pier
W1	West Loch	Ammunition Wharf
W2	West Loch	Ammunition Wharf
W3	West Loch	Ammunition Wharf
W4	West Loch	Ammunition Wharf
W5	West Loch	Ammunition Wharf
Y2	FISC	Supply Wharf
Y3A	FISC	Supply Wharf
Y3B	FISC	Supply Wharf
169	Beckoning Point	Pier
186	NISMF	Maintenance Pier
458	Ford Island	Berthing Pier
591	West Loch (Channel)	Pier
596	Aiea Bay	Pier
597	Aiea Bay	Pier
598	Aiea Bay	Pier
605	Aiea Bay	Pier
612	Halawa Stream	Berthing Wharf
1192	SUBASE	Finger Pier
1193	SUBASE	Finger Pier
1194	SUBASE	Finger Pier
1195	SUBASE	Finger Pier
1196	SUBASE	Finger Pier
1197	SUBASE	Finger Pier
1461	Shipyard	Wharf

Primary Source: "Mooring Facilities" iNFADS database query, Dec 2003.

APPENDIX B

WATERFRONT PROGRAMMATIC AGREEMENT

PROGRAMMATIC AGREEMENT
BETWEEN
THE COMMANDER NAVY REGION HAWAII,
AND THE
HAWAII STATE HISTORIC PRESERVATION OFFICER
REGARDING
WATERFRONT MAINTENANCE AND IMPROVEMENTS
PEARL HARBOR NAVAL COMPLEX, HAWAII

WHEREAS, the Commander Navy Region Hawaii (COMNAVREG) Hawaii, in order to meet its mission to support the Pacific Fleet by providing full and efficient berthing and maintenance services for surface ships and submarines home ported in Pearl Harbor, as well as transient vessels, must carry out repairs, maintenance, and improvements to its historic waterfront facilities, including piers, wharves, drydocks and utility systems; and

WHEREAS, these historic waterfront facilities are several decades old, in deteriorated condition, and in need of improvements to meet changing requirements of modern naval technology; and

WHEREAS, COMNAVREG Hawaii has determined that these undertakings may have adverse effects upon properties contributing to the Pearl Harbor National Historic Landmark (PHNHL), a property listed in the National Register of Historic Places; and

WHEREAS, COMNAVREG Hawaii has prepared an Integrated Cultural Resources Management Plan (ICRMP) for the Pearl Harbor Naval Complex (PHNC), that uses a cultural landscape approach to define historic management zones and most of the historic waterfront facilities are located within the ICRMP Shipyard, Submarine, Ford Island, Naval Supply, and West Loch Naval Magazine management zones; and

WHEREAS, COMNAVREG Hawaii has consulted with the Advisory Council on Historic Preservation (ACHP) and the State of Hawaii Historic Preservation Officer (SHPO), as well as the National Park Service (NPS), the Office of Hawaiian Affairs (OHA), the National Trust for Historic Preservation, Historic Hawaii Foundation, and the Oahu Council of Hawaiian Civic Clubs; and

WHEREAS, pursuant to Section 800.14 of the regulations, 36 CFR Part 800, which implement Section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C. 470f, and Section 110(f) of the same act, 16 U.S.C. 470h-2(f), the entities listed above have been invited to sign this PA; and

NOW, THEREFORE, COMNAVREG Hawaii and the SHPO agree that COMNAVREG Hawaii will carry out repairs, maintenance and improvements of its waterfront facilities in accordance with the following stipulations to satisfy its responsibilities under Section 106 and Section 110(f) of the NHPA.

STIPULATIONS

COMNAVREG Hawaii shall ensure that the following measures are carried out:

I. PROFESSIONAL STANDARDS

- A. All reviews of undertakings regarding historic structures will be carried out by or under the oversight or supervision of a person or persons meeting the professional qualifications for Historical Architect under Standard (a) in "The Secretary of the Interior's Historic Preservation Professional Qualification Standards" (Federal Register Vol. 62, No. 119, p. 33719, 1997). Reviews will be documented by the professional making the review.
- B. All reviews of undertakings requiring ground disturbance will be carried out by or under the oversight or supervision of a person or persons meeting the professional qualifications for Archaeologist in "The Secretary of the Interior's Historic Preservation Professional Qualification Standards" (Federal Register Vol. 62, No. 119, p. 33712, 1997). Reviews will be documented by the professional making the review.

II. OTHER AGREEMENTS

Appendix A of the Programmatic Agreement among COMNAVREG Hawaii, the ACHP and the SHPO regarding Navy undertakings in Hawaii, executed in July-August, 2003, identified repairs in kind and maintenance of wharves, piers, berths, or drydocks, dolphins, quays, pilings, bulkheads, decking, cleats, bitts, or bollards, capstans, cranes, trains or support equipment to maintain operational capability as undertakings that will not undergo further review or consultation.

III. AREA OF POTENTIAL EFFECTS

When a proposed undertaking does not require ground disturbance, the area of potential effects is limited to the individual pier, wharf, or drydock. For projects that involve ground disturbance, the APE shall include all those affected areas, including outside of the waterfront facilities.

IV. WATERFRONT PROJECT REVIEWS

A. Projects Requiring No Further Review

- 1. If qualified personnel, as described in Stipulation I.A, determine that an undertaking is listed in Attachment B.1, no further review or consultation under this PA and the NHPA is required. All such undertakings and determinations made will be documented and recorded. Such documentation will be made available upon request to the parties in accordance with Stipulation VII.

2. If qualified personnel, as described in Stipulation I.B, determine that an undertaking is listed in Attachment B.2, no further review or consultation under this PA and the NHPA is required. All such undertakings and determinations made will be documented and recorded. Such documentation will be made available upon request to the parties in accordance with Stipulation VII.

B. Projects Requiring Further Review

1. COMNAVREG Hawaii will notify SHPO of undertakings listed in Attachment B that occur in facilities that have not been photo documented to determine if photo documentation is required and the level of documentation. It is presumed that SHPO agrees with COMNAVREG Hawaii's determination if SHPO fails to respond within 30 days of receipt of notification.
2. COMNAVREG Hawaii will notify SHPO, Office of Hawaiian Affairs (OHA) and the Oahu Council of Hawaiian Civic Clubs (OCHCC) of undertakings that: (a) occur over areas identified in the ICRMP (page 3-24) as "areas with known or potential for sites" to determine if archaeological work (testing and/or monitoring) is required; or (b) require ground disturbance on or near Drydock 1, a location indicated in Native Hawaiian oral traditions to be the home of one or several shark gods of Pearl Harbor, to determine the adverse effect. Agreement with COMNAVREG Hawaii's determination is presumed if SHPO, OHA and OCHCC fail to respond within 30 days of receipt of notification.
3. Consultation will be initiated pursuant to 36 CFR 800 for the following projects: (a) construction of new waterfront facilities; (b) total or partial demolition of an existing pier, wharf, or drydock, with no replacement; (c) and projects that involve other historic buildings or structures which may be adversely affected.

V. DOCUMENTATION

- A. Attachment A of this PA indicates those waterfront facilities which have final or draft (pending review by NPS) photo documentation in accordance with Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) standards and specifications. Additionally, a HABS/HAER Overview of Waterfront Facilities is also in process.
- B. Should additional photo documentation be required, COMNAVREG Hawaii shall consult with SHPO to determine the level of HABS/HAER documentation. A person or persons meeting the professional qualifications for Architectural Historian or Historical Architect under the Secretary of the Interior's Historic

Preservation Professional Qualification Standards (Federal Register Vol. 62, No. 119, pp. 33713-33714, 33719, 1997) will prepare the photo documentation.

- C. COMNAVREG Hawaii will provide copies of photo documentation to any requesting consulting party.

VI. DISCOVERIES

- A. If during the performance of an undertaking, historic properties are discovered or unanticipated effects are found, or a previously unidentified property which may be eligible for inclusion in the National Register is newly discovered, COMNAVREG Hawaii will take all reasonable measures to avoid or minimize harm to the property until it concludes consultation with the SHPO and any Native Hawaiian organization which has made known to COMNAVREG Hawaii that it attaches religious and cultural significance to the property.
- B. COMNAVREG Hawaii will notify SHPO and/or the appropriate Native Hawaiian organization as soon as practical and develop actions that will take the effects of the undertaking into account. COMNAVREG Hawaii will notify these parties of any time constraints. COMNAVREG Hawaii and these parties will seek to mutually agree upon the time frame for this consultation but in no instance will the consultation exceed ten working days. COMNAVREG Hawaii will provide SHPO and/or the appropriate Native Hawaiian organization with written recommendations reflecting its consultation. If the parties do not object to COMNAVREG Hawaii's recommendations within the agreed time frame, COMNAVREG Hawaii will modify the scope of work as necessary to implement the recommendations.

VII. REPORTING REQUIREMENTS

- A. Schedule and Distribution: Concurrent with the reporting schedule under Stipulation XII of the 2003 PA regarding Navy undertakings in Hawaii, COMNAVREG Hawaii shall provide to all parties to this PA a report summarizing all actions carried out under this PA, to contain the following:
 - 1. name and designation, description, affected waterfront facility/ies of projects, date of review, and name/s of reviewer/s;
 - 2. list of parties consulted including telephonic, electronic or facsimile records regarding the project;
 - 3. date of project completion, if completed during reporting period;
 - 4. list of facilities photo documented under HABS/HAER standards and specifications; and

5. list of reports presenting findings of any archaeological work.

VIII. REVIEW

The SHPO may review activities carried out pursuant to this PA and will review such activities, if so requested. COMNAVREG Hawaii will cooperate with the SHPO in carrying out their review responsibilities.

IX. RESOLVING OBJECTIONS

- A. Should any signatory to this PA object in writing to COMNAVREG Hawaii regarding any action carried out or proposed with respect to the implementation of this PA, COMNAVREG Hawaii shall consult with the objecting party. If after initiating such consultation COMNAVREG Hawaii determines that the objection cannot be resolved through consultation, it shall forward all documentation relevant to the objection to the ACHP, including COMNAVREG Hawaii's proposed response to the objection. Within 30 calendar days after receipt of all pertinent documentation, the ACHP shall exercise one of the following options:
 1. Advise COMNAVREG Hawaii that the ACHP concurs in COMNAVREG Hawaii's proposed response to the objection, whereupon COMNAVREG Hawaii will respond to the objection accordingly;
 2. Provide COMNAVREG Hawaii with recommendations, which COMNAVREG Hawaii shall take into account in reaching a final decision regarding its response to the objection; or
 3. Notify COMNAVREG Hawaii that the objection will be referred to the ACHP membership for formal comment and proceed to refer the objection and comment within 45 calendar days. The resulting comment shall be taken into account by COMNAVREG Hawaii in accordance with Section 110(1) of the NHPA.
- B. Should the ACHP not exercise one of the above options within 30 calendar days after receipt of the pertinent documentation, COMNAVREG Hawaii may assume the ACHP's concurrence in its proposed response to the objection.
- C. COMNAVREG Hawaii shall take into account any ACHP recommendation or comment provided in accordance with this stipulation with reference only to the subject of the objection; COMNAVREG Hawaii's responsibility to carry out all actions under this PA that are not the subjects of the objection shall remain unchanged.
- D. At any time during implementation of any stipulation in this PA, should an objection to any such stipulation or its manner of implementation be raised by a member of the public, COMNAVREG Hawaii shall take the objection into

account and consult as needed with the objecting party, the ACHP and the SHPO to resolve the objection.

X. AMENDMENT

The SHPO or COMNAVREG Hawaii may request that this PA be amended, whereupon they will consult in accordance with 36 CFR Part 800 to consider such amendment. In particular, they will consider the information developed in COMNAVREG Hawaii's reports under Stipulation VII to determine if COMNAVREG Hawaii can effectively or efficiently carry out activities to support the Pacific Fleet through revisions to this PA. No amendment shall take effect until it has been executed by the SHPO and COMNAVREG Hawaii.

XI. TERMINATION

The SHPO or COMNAVREG Hawaii may propose to terminate this PA by providing 30 calendar days notice to the other two explaining the reasons for the proposed termination. The SHPO and COMNAVREG Hawaii will consult during this period to seek agreement on amendments or other actions that would avoid termination. In the event of termination, COMNAVREG Hawaii will comply with 36 CFR Sections 800.3 through 800.7 with regard to individual undertakings covered by this PA.

XII. FAILURE TO CARRY OUT AGREEMENT

In the event COMNAVREG Hawaii does not carry out the terms of this PA or if the SHPO determines under Stipulation VIII that the terms of this PA are not being carried out, COMNAVREG Hawaii will comply with 36 CFR Sections 800.3 through 800.7 with regard to individual undertakings covered by this PA.

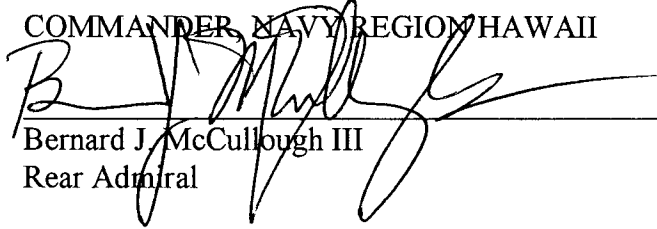
XIII. DURATION

This PA shall become effective upon execution by COMNAVREG Hawaii and the SHPO and shall remain in effect until terminated in accordance with Stipulation XI.

EXECUTION AND IMPLEMENTATION of this Programmatic Agreement evidences that COMNAVREG Hawaii has satisfied its Section 106 and Section 110(f) responsibilities for all undertakings regarding the repairs, maintenance and improvements of waterfront facilities at Pearl Harbor Naval Complex, Hawaii.

SIGNATORIES

COMMANDER, NAVY REGION HAWAII

A large, stylized handwritten signature in black ink, appearing to read 'Bernard J. McCullough III', written over a horizontal line.

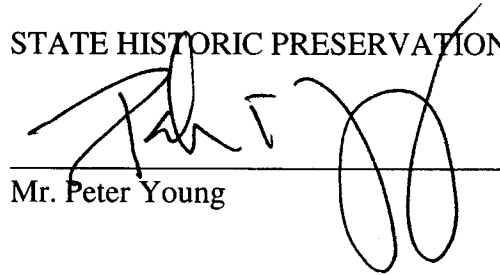
Bernard J. McCullough III
Rear Admiral

31 Mar 04

Date

SIGNATORIES

STATE HISTORIC PRESERVATION OFFICER

A handwritten signature in black ink, appearing to be 'Peter Young', is written over a horizontal line. The signature is stylized with large loops and a prominent 'P'.

Mr. Peter Young

Date: MAR 25 2004

INVITED SIGNATORIES:

NATIONAL PARK SERVICE

By: _____ Date: _____

WATERFRONT PROGRAMMATIC AGREEMENT
March 2, 2004

INVITED SIGNATORIES:

NATIONAL TRUST FOR HISTORIC PRESERVATION

Paul W. Edmondson Date: April 2, 2004
Mr. Paul Edmondson

INVITED SIGNATORIES:


OFFICE OF HAWAIIAN AFFAIRS

By: *Maunaloa Apdema* Date: *April 15, 2004*
Chairperson, Board of Trustees

WATERFRONT PROGRAMMATIC AGREEMENT
March 2, 2004

INVITED SIGNATORIES:

HISTORIC HAWAII FOUNDATION

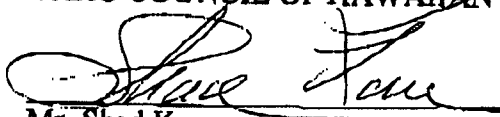
 Date: 3-5-04

Mr. David Scott

WATERFRONT PROGRAMMATIC AGREEMENT
March 2, 2004

INVITED SIGNATORIES

OAHU COUNCIL OF HAWAIIAN CIVIC CLUBS

 Date: 3/3/04
Mr. Shad Kane

ATTACHMENT A

LIST OF WATERFRONT (PIERS, WHARVES, DRYDOCKS) FACILITIES

FACILITY NO.	FACILITY NAME	CATEGORY DESIGNATION	HABS/HAER NO. (blank if none)
A1	Berthing Wharf	III	
A2-A3	Berthing Pier	III	
A4	Berthing Wharf	III	
A5-A6	Berthing Pier	III	
A7	Berthing Wharf	III	
B1	Repair Pier	III	draft
B5	Repair Pier	III	
B6	Repair Pier	III	
B7	Repair Pier	III	
B8	Repair Pier	III	
B9	Repair Wharf	III	
B10	Repair Pier	III	
B11	Repair Pier	III	
B12	Repair Pier	III	
B13	Repair Wharf	III	
B14	Repair Wharf	III	
B15	Repair Pier	III	HAER No. HI-10
B16	Repair Pier	III	HAER No. HI-10
B17	Repair Pier	III	HAER No. HI-10
B18	Repair Pier	III	HAER No. HI-10
B19	Repair Wharf	III	
B20	Repair Wharf	III	HAER No. HI-10
B21	Repair Wharf	III	HAER No. HI-10
B22	Repair Wharf	III	HAER No. HI-40
B23	Berthing Wharf	III	HAER No. HI-40
B24	Berthing Wharf	III	HAER No. HI-40
B25	Berthing Wharf	III	HAER No. HI-40
B26	Berthing Wharf	III	HAER No. HI-40
GD1	Repair Pier	III	draft
GD2	Repair Pier	III	draft
GD4	Repair Wharf	III	
H1-H4	Fueling Piers	III	HAER No. HI-24
H5	Fueling Quaywall	IV	
H6	Quaywall	IV	
K1	Berthing Wharf	IV	HAER No. HI-20
K3	Supply Wharf	III	
K5	Supply Wharf	III	
K6	Supply Wharf	III	
K7	Supply Pier	III	

WATERFRONT PROGRAMMATIC AGREEMENT
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K9	Supply Wharf	III	
K10	Supply Wharf	III	HAER No. HI-28
K11	Supply Wharf	III	HAER No. HI-28
K12	Bulkhead	IV	
M1	Berthing Wharf	III	
M2	Berthing Wharf	III	
M3	Berthing Wharf	IV	HAER No. HI-11
M4	Berthing Wharf	III	
O1	Repair Wharf	III	
O2	Repair Wharf	III	
S15/16	Berthing Pier	III	
S17/18	Berthing Pier	III	
S19	Berthing Wharf	III	
S22	CPF Finger Pier	III	
S291	Finger Pier	II	HAER No. HI-22
S369	Berthing Wharf F1-F1 1/2	III	
S370	Boat Landing A	II	HAER No. HI-39
S371	Ferry Slip A	III	
S372	Ferry Slip B	III	
S373	Berthing Wharf	III	
S374	Berthing Wharf F-3 1/2	III	HAER No. HI-14
S375	Small craft landing	III	HAER No. HI-19
S376	Finger Piers	III	
S378	Berthing Pier F-5	IV	HAER No. HI-9
S382	Berthing Wharf F12/13	III	
S383	Berthing Wharf F10	III	
S384	Berthing Wharf F9	III	
S773	Boat Landing C	III	
S774	Fleet Landing/Merry Pt	IV	
S779	Drydock 1	I	draft
S780	Drydock 2	II	draft
S781	Drydock 3	II	draft
S782	Drydock 4	II	HAER No. HI-15
S1	Berthing Wharf	II	HAER No. HI-38
S10-14	Berthing Wharf	III	HAER No. HI-37
S20	Berthing Wharf	III	HAER No. HI-35
S21	Berthing Wharf	III	HAER No. HI-36
1192	Finger Pier	III	HAER No. HI-45
1193	Finger Pier	IV	HAER No. HI-45
1194	Finger Pier	III	HAER No. HI-45
1195	Finger Pier	IV	HAER No. HI-45
1196	Finger Pier	IV	HAER No. HI-45
1197	Finger Pier	IV	HAER No. HI-45
V1	Supply Wharf	III	

*WATERFRONT PROGRAMMATIC AGREEMENT
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V2	Supply Wharf	III	
V3	Supply Wharf	III	
V4	Fueling Wharf	III	
Various	Waterfront Facilities - Overview		HAER No. 53

ATTACHMENT B

PROJECTS REQUIRING NO FURTHER REVIEW

1. The following work will not undergo further review or consultation provided that personnel described in Stipulation I.A. determine that the proposed work is included in the list below:

- a. Replace existing damaged and deteriorated timber fender system with a new fender system, to include but not limited to: concrete fender piles, floating foam filled fenders, plastic wales and chocks, pneumatic rubber fenders and backing assemblies, composite / plastic piles.
- b. Upgrade of existing concrete decks to increase current loading capacity, to include demolition and re-construction following the same dimensions. The appearance of the deck will remain unchanged.
- c. Repair or replace existing concrete fender system.
- d. Replace timber curbs with plastic blockings.
- e. Repair existing sheetpile walls, to include but not limited to installation of new anchor rods and deadman.
- f. Install new sheetpile bulkhead.
- g. Install new mooring hardware.
- h. Enclose and secure utility conduits to the pier.
- i. Replace deteriorated light poles and solar panels.
- j. Repair or replace pier superstructures (non-historic).
- k. Deck upgrades to improve mobile crane and mooring operations.
- l. Install oil containment flotation devices alongside the piers.
- m. Repair or replace small boat landing platforms and walkways.
- n. Covered under the 2003 PA, Appendix A.I.C.27: repair deck and underdeck cracks, spalls; clean and resurface existing mooring hardware; replace manhole covers; replace anchor bolts and hardware; repair pile caps; replace brackets and hangers; repair bollards

2. The following work will not undergo further review or consultation provided that personnel described in Stipulation I.B. determine that the proposed work is included in the list below:

- a. Ground disturbance in areas identified in the ICRMP as “areas with no or low potential for sites” (Figure 2, page 3-24).
- b. Ground disturbance that is limited to the depth of fill (average of 12 feet) in areas of buried fishponds.
- c. Ground disturbance that occurs over the boundaries of an unnamed fishpond in Shipyard near B1 and N2. Data recovery has been completed for this fishpond and, in a letter dated April 19, 2002, SHPO agreed that no further work is necessary.